Pete

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

RECEIVED
SEP 13 1991
SAFE SECTION

Date: SEP 12 1991

MEMORANDUM

SUBJECT: Data Transmittal for Activity #: DSX72
Site Desciption: Cedar Falls FMGP

FROM: Andrea Jirka (for N Thomas)
Chief, Laboratory Branch, ENSV

TO: Robert Morby
Chief, Superfund Branch, WSTM

ATTN: Pete Culver

Attached is the data transmittal for the above referenced site. This should be considered a ____ Partial or X Complete data transmittal (completes transmittal of _____). If you have have any questions or comments, please contact Dee Simmons at 551-5129.

Attachments

cc: Data Files
Jacobs Eng.

NOTE: Please see Mary Gerken, SPFD-WSTM, if you want an electronic copy of the data.

55

OU-00

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: 004 QCC: _ MEDIA: SOIL PI.: S P F O

ACTIVITY DES: CEDAR FALLS FMGP
LOCATION: CEDAR FALLS IA PROJECT NUM: A34

REF LATITUDE: __ __ __
PT: LONGITUDE: ___ __ __

SAMPLE DES: _____
LOCATION: CEDAR FALLS IA
CASE/BATCH/SMO: _____/_/_____ LAB: ___
STORET/SAROAD NO: _____

DATE TIME FROM REF PT
BEG: 07/~~29~~/91 11:40 EAST: ____
END: __/30/__ __:__ NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	NONE	SV	VOLATILES
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS
~~GLASS~~	~~NONE~~	ST09	CYANIDE

→ add Hg (SM34). cyanide

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

sample collected at location 355, from a depth of 4.5' bg.

Microtip readings of 0 ppm

Split with CFU

SAMPLE COLLECTED BY : Mark Griffith

DRAFT FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: 005 QCC: _ MEDIA: SOIL PL: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: 07/29/91 12:35 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/30/__ __:__ NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	NONE	SV	VOLATILES
GLASS	ICED	SS	SEMIVOLATILES → add Hg (SW34).
GLASS	ICED	SM	METALS/cyanide
~~GLASS~~	~~NONE~~	ST09	~~CYANIDE~~

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

location 45
collected from 1.8' bg
Microtip readings at 0ppm

SAMPLE COLLECTED BY : Mark Griffith

DRAFT FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: 006 QCC: _ MEDIA: SOIL PL: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: 07/~~29~~/91 12:35 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/30/__ __:__ NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	NONE	SV	VOLATILES
GLASS	ICED	SS	SEMIVOLATILES → add Hg (SM34),
GLASS	ICED	SM	METALS cyanide
~~GLASS~~	~~NONE~~	~~SI09~~	~~CYANIDE~~

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

location 455
samples collected from 5' to 5.5' bg

SAMPLE COLLECTED BY : Paul Kiefer

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: 007 QCC: _ MEDIA: SOIL PL: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: 07/~~29~~/91 ~~15:00~~ EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/30/__ 15:15 NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	NONE	SV	VOLATILES
GLASS	ICED	SS	SEMIVOLATILES → add Hg (8934).
GLASS	ICED	SM	METALS / Cyanide
~~GLASS~~	~~NONE~~	~~5109~~	~~CYANIDE~~ RA

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Sample taken from location 25 for the above parameters. - Taken from 1 - 2.1 feet bgs. Splits were taken

SAMPLE COLLECTED BY : Paul Kieler

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: 05X72 SAMNO: 008 QCC: _ MEDIA: SOIL PL: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: 07/~~27~~/91 15:20 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/30__ __:__ NORTH: ____
STORET/SAROAD NO): _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	NONE	SV	VOLATILES
GLASS	ICED	SS	SEMIVOLATILES
GLASS	ICED	SM	METALS /cyanide
~~GLASS~~	~~NONE~~	~~ST09~~	~~CYANIDE~~ /RA

add Hg (SM34).

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Sample location 2ss taken from 4-4 1/2 feet for the above parameters.

Splits were taken.

SAMPLE COLLECTED BY : Paul Kiefer

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: ~~005~~ 008 QCC: D MEDIA: SOIL PL: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: ~~07/29/91~~ 7/30/91 15:20 EAST: ____
CASE/BATCH/SMD: _____/_/_____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	NONE	SV	VOLATILES
GLASS	ICED	SS	SEMIVOLATILES → (SM34) add Hg.
GLASS	ICED	SM	METALS / cyanide
~~GLASS~~	~~NONE~~	S109	CYANIDE

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Dup Sample from location 255.

SAMPLE COLLECTED BY : Paul Kieler

DRAFT FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: 010 QCC: F MEDIA: SOIL PL: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: TRIP BLANK DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: 07/~~27/91~~ 7/30/91 __:__ EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	NONE	SV	VOLATILES

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Trip Blank prepared by EPA Region VII Lab

SAMPLE COLLECTED BY : EPA

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: 101 QCC: _ MEDIA: ~~WATER~~ Soil PL: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: 07/~~09~~/91 16:40 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/30/__ __:__ NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2 VOA VIALS	ICED	~~WW~~ SV	VOLATILES
~~GLASS~~ 8oz Glass	ICED	~~WS~~ SS	SEMIVOLATILES
~~CUBI~~ 8 oz Glass	~~5 ML HNO3~~ ICED	~~WM~~ SM	METALS ~~& cyanide~~
~~CUBI~~	~~NAOH~~	~~WT09~~	~~CYANIDE, TOTAL~~

→ add Hg (SM34).

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Sample taken from background location

from 2 1/2 - 3 1/2 feet below ground surface

SAMPLE COLLECTED BY : Paul Kieler
Bob Aston

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX/2 SAMNO: 104 QCC: _ MEDIA: WATER PI.: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: 07/29/91 10:45 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/30/__ __:__ NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2 VOA VIALS	ICED	WV	*VOLATILES
GLASS	ICED	WS	*SEMIVOLATILES
CUBI	5 ML HNO3	WM	*METALS → add Hg (Wmg)
CUBI	NAOH	WT09	*CYANIDE, TOTAL

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Samples taken from onsite well #3 for above parameters.

Supplied split samples to site.

SAMPLE COLLECTED BY : Susan Tuley

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: 104 QCC: _ MEDIA: WATER PL: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: _____ DATE 30 TIME FROM REF PT
LOCATION: CEDAR FALLS IA REG: 07/29/91 11:30 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2 VOA VIALS	ICED	WV	VOLATILES
GLASS	ICED	WS	SEMIVOLATILES
CUBI	5 ML HNO3	WM	METALS → Add by (WM34)
CUBI	NAOH	WT09	CYANIDE, TOTAL

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Sample collected for the above analysis from Municipal well #2. Do Splits taken

SAMPLE COLLECTED BY : Susan Tuley

DRAFT FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: 105 NCC: F MEDIA: WATER PI.: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: TRIP BLANK DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: ~~07/29/91~~ ~~15:45~~ EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: 7/30/91 __:__ NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2 VOA VIALS	ICED	MV	VOLATILES

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Trip Blank
Prepared by EPA Region VII Lab

SAMPLE COLLECTED BY : NA - EPA

DRAFT FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: DSX72 SAMNO: 106 NCC: F MEDIA: WATER PL: S P F D

ACTIVITY DES: CEDAR FALLS FMGP REF LATITUDE: __ __ __
LOCATION: CEDAR FALLS IA PROJECT NUM: A34 PT: LONGITUDE: ___ __ __

SAMPLE DES: RINSATE BLANK DATE TIME FROM REF PT
LOCATION: CEDAR FALLS IA BEG: 7/29/91 15:45 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: 7/30/91 __:__ NORTH: ____
STORET/SAROAD NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2 VOA VIALS	ICED	WV	VOLATILES
GLASS	ICED	WS	SEMIVOLATILES
CUBI	5 ML HNO3	WM	METALS → aaa Hg (w mod).
CUBI	NAOH	WT09	CYANIDE, TOTAL

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Rinsate blank taken after sampling location 255 - EPA Sample # DSX72008 - after decon

SAMPLE COLLECTED BY : R Kiefer
B Ashton

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

7/31/91

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Bob Aston	Cedar Falls FMGP	30 / 07 / 91	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: 1L CUBITAINER	90z BOTTLE	8Oz BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
DSX72-001		2			1		X				
DSX72-002		2			1		X				
DSX72-003		2			1		X				
DSX72-004		2			1		X				
DSX72-005		2			1		X				
DSX72-006		2			1		X				
DSX72-007		2			1		X				
DSX72-008		2			1		X				
DSX72-009	008D	2			1		X				
DSX72-010	F	~~X~~ MR			1		X				
DSX72-101		2			1		X				
~~DSX72-102~~	~~2~~		~~1~~		~~1~~	~~X~~	~~MR~~				
DSX72-103	2		1		1	X					
DSX72-104	2		1		1	X					
DSX72-105	~~X~~ MR		X MR		1	X					
DSX72-106	2		1		1	X					

DESCRIPTION OF SHIPMENT

___ PIECE(S) CONSISTING OF ___ BOX(ES)

1 ICE CHEST(S); OTHER ___

MODE OF SHIPMENT

✓ COMMERCIAL CARRIER: Federal Express

___ COURIER

___ SAMPLER CONVEYED

0939122096 (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Susan Turley ☒ SEALED ☐ UNSEALED	7/30	5:30	Nicky Robb 7/31/91 ☐ SEALED ☐ UNSEALED	Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

ENVIRONMENTAL SERVICES ASSISTANCE TEAM – ZONE II

ICF Technology Incorporated

NSI Technology Services Corp.

The Bionetics Corp.

ESAT Region VII
NSI Tech. Serv. Corp.
25 Funston Road
Kansas City, KS 66115
(913) 551-5000

TO: Barry Evans
Data Review Task Monitor
THRU: Harold Brown, Ph.D.
ESAT Deputy Project Officer, EPA

FROM: David J. Hickey
ESAT Data Reviewer
THRU: Ronald A. Ross
ESAT Team Manager

DATE: August 16, 1991
SUBJECT: Review of organic data for **Cedar Falls FMGP**

TID# 07-9103-535
ASSIGNMENT# 924
ICF ACCT# 26-535-02
NSI S.O.# 1073-535
ESAT Document No. ESAT-VII-535-0175

These data were reviewed primarily according to the "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses," February 1988 revision with changes given in the Region VII Organic Data Review Training Manual and EPA memorandums.

The following comments and attached data sheets are a result of the ESAT review, according to EPA policies, of the following data from the contract laboratory.

CASE NO.: 6568G
SITE: Cedar Falls FMGP
REVIEWER: David J. Hickey

LABORATORY: AATS
METHOD NO.: CS0288A
EPA ACTIVITY NO.: DSX72
MATRIX: WATER/SOIL

VOLATILES (WATER)		VOLATILES (SOIL)	
SMO Sample No.	EPA Sample No.	SMO Sample No.	EPA Sample No.
6568G-012	DSX72103	6568G-010	DSX72010F
6568G-013	DSX72104		
6568G-014	DSX72105F		
6568G-015	DSX72106F		
6568G-016	DSX72952P		

SEMIVOLATILES
(WATER)

SMO Sample No.	EPA Sample No.
6568G-027	DSX72103
6568G-028	DSX72104
6568G-029	DSX72106F
6568G-030	DSX72948P

GENERAL

This data review assignment covers 5 WATER, and 1 SOIL samples analyzed for VOLATILES, and 4 WATER samples analyzed for SEMIVOLATILES for SAS number 6568G. There was four field blanks, four method blanks, and two performance evaluation samples included with this assignment.

1. Holding Times and Preservation

Several water samples exceeded the specified Aromatic holding times for volatiles by 3 days or less but no coding resulted. No holding times have been established for soil samples. Extraction and analysis of the waters for semivolatiles was completed within the specified time limit.

2. GC/MS Tuning

All relative ion abundances were within the established control limits.

3. Initial and Continuing Calibration

Volatiles:

%RSD was out of control for Chloromethane, Bromomethane, and 2-Butanone, but since sample results were non-detect for these compounds, no qualification was necessary. %D was out of control for Chloromethane, Methylene Chloride, Vinyl Acetate, Trans-1,3-Dichloropropene, 2-Butanone, 1,1,1-Trichloroethane, 4-Methyl-2-Pentanone, 2-Hexanone, Dibromochloromethane, and Bromoform. As a result, sample DSX72952P was J-coded for Dibromochloromethane, and sample DSX72010F was J-coded for 2-Butanone.

Semivolatiles:

%RSD was out of control for 4-Chloroaniline, Hexachlorocyclopentadiene, 3,3'-Dichlorobenzidine, and Benzo(k)Fluoranthene, but since all samples were non-detect for these compounds, no qualification was necessary. %D was out of control for Benzoic acid, 4-Chloroaniline, 3-Nitroaniline, 3,3'-Dichlorobenzidine, and 4-Nitrophenol, but since all samples were non-detect for these compounds, no qualification was necessary.

4. Internal Standard Response

All internal standard criteria were within control limits.

5. **Blanks**

Volatiles:

Common contaminants (Methylene Chloride, Acetone and Chloroform) were found in some of the method blanks at levels below the CRQL. Sample DSX72105F was U-coded for Methylene Chloride since results for that compound were not above 10x the blank contamination. Although Methylene Chloride and Acetone were found in one of the water field blanks, no samples were qualified. Acetone in the soil field blank did not qualify any samples because the field blank was the only soil sample.

Semivolatiles:

Both the method blank and the field blank were free of comtamination.

6. **Surrogate Recovery**

All surrogate compound recoveries were within control limits.

7. **Matrix Spike/Matrix Spike Duplicate Recovery**

Volatiles:

The Matrix spike/Matrix spike duplicate recoveries were within control limits. All RPDs were within control limits. There was no MS/MSD run on the soil sample.

Semivolatiles:

The Matrix spike/Matrix spike duplicate recoveries were within control limits. All RPDs were within control limits.

8. **Performance Evaluation Sample**

Volatiles:

Recovery of spiked analytes was very good. Acetone, which was also present in the field blank, was the only additional compound found in the performance sample. No data were qualified based on performance evaluation sample recoveries.

Semivolatiles:

Recovery of spiked analytes was low, with one compound (Phenol) not recovered at all. Because the sample was diluted (reason unknown), several spiked compounds were recovered, but at levels below the CRQL and were, thus, not reported. No data were qualified based on performance evaluation sample recoveries.

9. **Duplicates**

There were no duplicate samples included with this package.

10. Compound Identification and Quantitation

Due to the requested review level, results listed on the summary forms were used for the review. These results were not checked against the raw data for accuracy, and calculations were not verified. All positive results found below the CRQL were raised to the CRQL according to Regional policy and coded U.

11. Summary

The lab was instructed to analyze the water and soil samples for VOA analytes, and additionally the water samples for Semivolatiles analytes (package was SAS because of required quick turn-a-round). Calibration outliers were found for many compounds, resulting in data for two samples in the volatiles fraction being J-coded. Common laboratory contaminants were found in the method blanks for volatiles, qualifying one sample. All other QC was acceptable.

ENVIRONMENTAL SERVICES ASSISTANCE TEAM – ZONE II

ICF Technology Incorporated

NSI Technology Services Corp.

The Bionetics Corp.

ESAT Region VII
NSI Technology Services
25 Funston Road
Kansas City, KS 66115
(913) 551-5000

TO: Barry Evans, Data Review Task Monitor/ENSV
THRU: Harold Brown, Ph.D., ESAT Contract Manager/ENSV

FROM: Rebecca K. Estep, ESAT Data Reviewer/ManTech RE RE
THRU: Ronald Ross, ESAT Manager/ManTech

DATE: August 22, 1991
SUBJECT: Review of inorganic data for Cedar Falls FMGP.

TID#:	07-9103-535
ASSIGNMENT#:	923
ICF ACCT#:	302-26-535-02
ManTech S.O.#:	1073-535
ESAT Document#:	ESAT-VII-535-0183

These data were reviewed according to the "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses," July 1, 1988 revision.

The following comments and attached data sheets are a result of ManTech Environmental Technology, Inc.'s review of the above mentioned data from the contract laboratory.

SAS NO.:	6568G	LABORATORY:	BETZPA
CONTRACT NO.:	68-D9-0082	METHOD NO:	CS0788A
SITE:	Cedar Falls FMGP	EPA ACTIVITY:	DSX72
REVIEWER:	Rebecca K. Estep	MATRIX:	Water/Soil

TOTAL METALS, CYANIDE, and MERCURY

SMO SAMPLE NO.	EPA SAMPLE NO.	SMO SAMPLE NO.	EPA SAMPLE NO.
*MGJ001	*DSX72001	*MGJ002	*DSX72002
*MGJ003	*DSX72003	*MGJ004	*DSX72004
*MGJ005	*DSX72005	*MGJ006	*DSX72006
*MGJ007	*DSX72007	*MGJ008	*DSX72008
*MGJ009	*DSX72008D	*MGJ010	*DSX72101
#MGJ011	#DSX72103	#MGJ012	#DSX72104
#MGJ013	#DSX72106F	**MGJ014	**DSX72944P
##MGJ014	##DSX72940P		

* Soil samples
\# Water samples
Water sample for cyanide (CN) analyses only
** Water sample for total metal analyses only

GENERAL

SAS 6568G contained 15 environmental and 14 QC water and soil samples analyzed for total metals, mercury (Hg), and cyanide (CN) at the low level concentration. This package includes one rinsate blank, one field duplicate, and two performance evaluation samples. Data review was performed at level 2.

1. TECHNICAL HOLDING TIMES and PRESERVATION

A. Technical holding times were within quality control limit requirements for all water analyses.

B. No technical holding times or required preservation are specified for soil samples.

2. INITIAL and CONTINUING CALIBRATION

A. Initial and continuing calibrations were within quality control limit requirements.

3. BLANKS

A. No analytes were detected above the contract required detection limit (CRDL) in any blank.

B. Aluminum (Al), cadmium (Cd), calcium (Ca), iron (Fe), magnesium (Mg), barium (Ba), manganese (Mn), zinc (Zn), lead (Pb) by furnace, and sodium (Na) were detected greater than the instrument detection limit (IDL) in the water blanks. Analytes greater than the instrument detection limit (IDL) but less than 5 times the highest level detected in the blank were qualified with a "U" code. Aluminum (Al) and manganese (Mn) in sample DSX72944P and lead (Pb) by furnace in sample DSX72104 were qualified with a "U" code according to the blank rules.

C. Aluminum (Al), cadmium (Cd), calcium (Ca), chromium (Cr), iron (Fe), magnesium (Mg), barium (Ba), manganese (Mn), zinc (Zn), and sodium (Na) were detected greater than the instrument detection limit (IDL) in the soil blanks. Analytes greater than the instrument detection limit (IDL) but less than 5 times the highest level detected in the blank were qualified with a "U" code. Since these analytes in all associated samples were non-detect or greater than the 5 times rule, no data were qualified due to the blank rules.

D. One rinsate blank on the equipment was analyzed for total metals and cyanide. No samples were qualified based on the rinsate blank.

4. ICP INTERFERENCE CHECK

A. All analytes contained in the ICP interference check sample were within quality control limit requirements. Antimony (Sb), potassium (K), and sodium (Na) were found but were not elements present in the AB ICP interference check solution. Since levels detected were below the instrument detection limit (IDL) or levels found in the samples were significantly higher, no data were qualified by the ICP interference check sample.

5. LABORATORY CONTROL SAMPLE

A. The laboratory control sample analyzed for soil samples was within quality control limit requirements.

B. The laboratory control sample analyzed for water samples was outside quality control limit requirements for percent recovery for silver (Ag). Silver (Ag) in sample DSX72103S was "J" coded due to the laboratory control sample rules.

6. DUPLICATES

A. All analytes were within quality control limit requirements for the water and soil samples.

7. MATRIX SPIKE

A. All analytes in the soil matrix spike were within quality control limit requirements for percent recovery except antimony (Sb). Antimony (Sb) in sample DSX72907C was qualified with a "J" code according to the spike rules.

B. All analytes in the water matrix spike were within quality control limit requirements for percent recovery.

8. GRAPHITE FURNACE ATOMIC ABSORPTION (GFAA) SPECTROSCOPY

A. Selenium (Se) and thallium (Tl) in several soil samples and selenium (Se) and lead (Pb) in several water samples had post digestion spike recoveries outside quality control limits. Lead (Pb) in sample DSX72104 would have been "J" coded due to the post digestion spike recovery, however, this qualification was overridden due to qualification by the blank rules. Lead (Pb) in sample DSX72944P was outside quality control limit requirements for the post digestion spike recovery but the sample absorbance was not less than 50% of the post digestion spike absorbance. No data were qualified due to the post digestion spike recovery rules.

B. The method of standard additions was performed for selenium (Se), lead (Pb), and arsenic (As) in several samples. The correlation coefficient for arsenic (As) in samples DSX72004 and DSX72007 was outside quality control limit requirements (less than 0.995) and was qualified with a "J" code according to the standard addition rules.

9. PERFORMANCE EVALUATION AUDIT SAMPLE

A. The performance evaluation samples DSX72940P for cyanide (CN) and DSX72944P for total metals were analyzed together by the laboratory as sample MGJ014. For reporting purposes, cyanide (CN) in sample DSX72944P and all total metals in sample DSX72940P were reported as not analyzed.

B. Performance evaluation audit sample DSX72944P for total metals was submitted to the laboratory for analysis with all analytes contained in the audit being identified. Arsenic (As), copper (Cu), iron (Fe), and nickel (Ni) in sample DSX72944P were detected above the instrument detection limit (IDL) but less than the contract required detection limit (CRDL), thus, these analytes were raised to the CRDL and "U" coded.

C. Performance evaluation audit sample DSX72940P for cyanide (CN) was submitted to the laboratory for analysis with cyanide (CN) not being detected.

10. ICP SERIAL DILUTION

A. All analytes were within quality control limit requirements according to the ICP serial dilution rules for water samples.

B. All analytes were within quality control limit requirements according to the ICP serial dilution rules for soil samples except for calcium (Ca), manganese (Mn), and zinc (Zn). Calcium (Ca) in all soil samples except DSX72002S and DSX72904M and manganese (Mn) and zinc (Zn) in all soil samples except for DSX72904M were "J" coded due to the ICP serial dilution rules.

11. SUMMARY

A. Aluminum (Al) and manganese (Mn) in sample DSX72944P and lead (Pb) by furnace in sample DSX72104 were qualified with a "U" code according to the blank rules.

B. One rinsate blank on the equipment was analyzed for total metals and cyanide. No samples were qualified based on the rinsate blank.

C. Silver (Ag) in sample DSX72103S was "J" coded due to the laboratory control sample rules.

D. Antimony (Sb) in sample DSX72907C was qualified with a "J" code according to the spike rules.

E. The correlation coefficient for arsenic (As) in samples DSX72004 and DSX72007 was outside quality control limit requirements (less than 0.995) and was qualified with a "J" code according to the standard addition rules.

F. Calcium (Ca) in all soil samples except DSX72002S and DSX72904M and manganese (Mn) and zinc (Zn) in all soil samples except for DSX72904M were "J" coded due to the ICP serial dilution rules.

G. Several analytes in several water and soil samples were detected above the instrument detection limit (IDL) but less than the contract required detection limit (CRDL), thus, these analytes were raised to the CRDL and "U" coded.

H. Arsenic (As) in sample DSX72002 was reported by the laboratory as a positive result, however, when taking into account the percent solid arsenic (As) was actually detected less than the contract required detection limit (CRDL). Thus, arsenic (As) in sample DSX72002 was raised to the CRDL and "U" coded.

I. This data package generally meets the requirements for precision, accuracy, and completeness as described in SOW for Inorganic Analysis dated July 1988, with the exceptions noted above.

ENVIRONMENTAL SERVICES ASSISTANCE TEAM -- Zone II

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TO: Barry Evans
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THRU: Harold Brown, Ph.D.
ESAT Deputy Project Officer, EPA

FROM: John Gilchrist
ESAT Data Reviewer
THRU: Ronald A. Ross
ESAT Team Manager

DATE: August 26, 1991
SUBJECT: Review of volatile and semivolatile organic data for **CEDAR FALLS FMGP** Site.

TID#. 07-9103-535 ASSIGNMENT# 931
ICF ACCT# 26-535-02 MANTECH S.O.# 1073-535
ESAT Document No. ESAT-VII-535-0189

These data were reviewed primarily according to the general "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses," February 1988 revision with changes given in the Region VII Organic Data Review Training Manual and EPA memorandums.

The following comments and attached data sheets are a result of the ESAT review, according to EPA policies, of the following data from the contract laboratory.

CASE NO.: SAS 6568G
SITE: CEDAR FALLS FMGP
REVIEWER: John Gilchrist

LABORATORY: AATS
METHOD NO.: CS0288A
EPA ACTIVITY NO.: DSX72
MATRIX: SOIL

VOLATILES SOIL		SEMIVOLATILES SOIL	
SMO Sample No.	EPA Sample No.	SMO Sample No.	EPA Sample No.
6568G001	DSX72001	6568G017	DSX72001
6568G002	DSX72002	6568G018	DSX72002
6568G003	DSX72003	6568G019	DSX72003
6568G004	DSX72004	6568G020	DSX72004
6568G005	DSX72005	6568G021	DSX72005
6568G006	DSX72006	6568G022	DSX72006
6568G007	DSX72007	6568G023	DSX72007
6568G008	DSX72008	6568G024	DSX72008
6568G009	DSX72008D	6568G025	DSX72008D
6568G011	DSX72101	6568G026	DSX72101

GENERAL

This data review assignment covers 10 SOIL samples analyzed for VOLATILES and 10 SOIL samples analyzed for SEMIVOLATILES for SAS number 6568G. There were no field blanks, two field duplicates and no performance evaluation samples included with this assignment. Data review was performed at level two.

1. Holding Times and Preservation

Volatiles: No technical holding times are specified for soil samples.

Semivolatiles: No technical holding times are specified for holding times from collection to extraction for soil samples. Technical holding times were observed for subsequent analysis of extracts.

2. GC/MS Tuning

Volatiles: All relative ion abundances were within the established control limits.

Semivolatiles: All relative ion abundances were within the established control limits.

3. Initial and Continuing Calibration

Volatiles: All compounds met the criteria of 0.05 for response factors for both initial and continuing calibrations. All compounds were within control limits for %RSD in the initial calibrations. Several compounds were outside the 25% criteria for % difference in the continuing calibrations. Acetone was J coded in sample DSX72001 due to these results.

Semivolatiles: All compounds met the criteria of 0.05 for response factors for both initial and continuing calibrations. Several compounds were outside the control limits for %RSD and % difference criteria for initial and continuing calibrations. Benzo(b)Fluoranthene was J coded in samples DSX72006, DSX72007, and DSX72008 due to these results.

4. Internal Standard Response

Volatiles: Internal standards 1,4-Difluorobenzene and Chlorobenzene were outside control limits in the initial analysis of DSX72008D. All internal standards were within control limits on the re-analysis of this sample. No data were qualified due to this occurrence.

Semivolatiles: All internal standard criteria were within control limits.

5. Blanks

Volatiles: Acetone, 2-Hexanone, and Chloroform were detected in the method blanks at levels below the CRDL. Acetone was U coded in sample DSX72008D, due to this occurrence.

Semivolatiles: No contaminants were found in the method blanks.

6. Surrogate Recovery

Volatiles: Surrogate compound recoveries were out of control limits for sample DSX72008D, both for initial and re-analysis. Toluene-d8 was outside of contract required QC limits on the initial analysis. 1,2-Dichloroethane-d4 was outside control limits on the re-analysis of DSX72008D. As a result, Methylene Chloride and Tetrachloroethene were qualified with a J code in this sample.

Semivolatiles: Surrogate compound recoveries for 2,4,6-Tribromophenol were out of control limits for samples DSX72002, DSX72003, DSX72004, and DSX74005. No data were qualified by this result.

7. Matrix Spike/Matrix Spike Duplicate Recovery

Volatiles: Matrix spike/Matrix spike values were all within the control ranges.

Semivolatiles: Matrix spike/Matrix spike values were all within the control ranges.

8. Performance Evaluation Sample

There were no performance evaluation samples included with this sample package.

9. Compound Identification and Quantitation

Due to the requested review level, results listed on the summary forms were used for the review. These results were not checked against the raw data for accuracy, and calculations were not verified.

10. Summary

Volatiles: Calibration outliers resulted in qualification of data for one compound in one sample. Blank contamination caused qualification in one sample. Surrogate outliers caused J coding on one sample.

Semivolatiles: Calibration outliers resulted in data qualification in three samples. Surrogate outliers did not result in any data qualification.

ANALYSIS REQUEST REPORT — VALIDATED DATA

FOR ACTIVITY: DSX72

S P F D — 09/12/91 17:30:19 — ALL REAL SAMPLES AND FIELD Q.C.

* FINAL REPORT

FY: 91 ACTIVITY: DSX72 DESCRIPTION: CEDAR FALLS FMGP LOCATION: CEDAR FALLS IOWA

STATUS: ACTIVE TYPE: SAMPLING - CONTRACT LAB ANALYSIS PROJECT: A34

LABO DUE DATE IS 9/14/91. REPORT DUE DATE IS 10/13/91.

INSPECTION DATE: 7/30/91 ALL SAMPLES RECEIVED DATE: 07/31/91

ALL DATA APPROVED BY LABO DATE: 09/12/91 FINAL REPORT TRANSMITTED DATE: 09/12/91

EXPECTED LABO TURNAROUND TIME IS 45 DAYS EXPECTED REPORT TURNAROUND TIME IS 75 DAYS

ACTUAL LABO TURNAROUND TIME IS 43 DAYS ACTUAL REPORT TURNAROUND TIME IS 44 DAYS

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE STATUS	# CONT.	CITY	STATE	AIRS/ STORET LOC NO	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		S	CEDAR FALLS FMGP-LOCATION 1S	1	1	CEDAR FALLS	IOWA		07/30/91	09:30	/ /	:
002		S	CEDAR FALLS FMGP-LOCATION 1SS	1	1	CEDAR FALLS	IOWA		07/29/91	09:50	/ /	:
003		S	CEDAR FALLS FMGP-LOCATION 3S	1	1	CEDAR FALLS	IOWA		07/30/91	11:25	/ /	:
004		S	CEDAR FALLS FMGP-LOCATION 3SS	1	1	CEDAR FALLS	IOWA		07/30/91	11:40	/ /	:
005		S	CEDAR FALLS FMGP-LOCATION 4S	1	1	CEDAR FALLS	IOWA		07/30/91	12:35	/ /	:
006		S	CEDAR FALLS FMGP-LOCATION 4SS	1	1	CEDAR FALLS	IOWA		07/30/91	12:55	/ /	:
007		S	CEDAR FALLS FMGP-LOCATION 2S	1	1	CEDAR FALLS	IOWA		07/30/91	15:15	/ /	:
008		S	CEDAR FALLS FMGP-LOCATION 2SS	1	1	CEDAR FALLS	IOWA		07/30/91	15:20	/ /	:
008	D	S	CEDAR FALLS FMGP-LOCATION 2SS	1	5	CEDAR FALLS	IOWA		07/30/91	15:20	/ /	:
010	F	S	CEDAR FALLS FMGP-TRIP BLANK	1	1	CEDAR FALLS	IOWA		07/30/91	:	/ /	:
101		S	CEDAR FALLS FMGP-BACKGROUND LOCATION	1	5	CEDAR FALLS	IOWA		07/30/91	16:10	/ /	:
103		W	CEDAR FALLS FMGP-ONSITE WELL #3	1	1	CEDAR FALLS	IOWA		07/30/91	10:45	/ /	:
104		W	CEDAR FALLS FMGP- MUN. WELL #2	1	5	CEDAR FALLS	IOWA		07/30/91	11:30	/ /	:
105	F	W	CEDAR FALLS FMGP-TRIP BLANK	1	1	CEDAR FALLS	IOWA		07/30/91	:	/ /	:
106	F	W	CEDAR FALLS FMGP-RINSATE BLANK	1	5	CEDAR FALLS	IOWA		07/30/91	15:45	/ /	:

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER
QCC = QUALITY CONTROL SAMPLE/AUDIT CODE
M = MEDIA OF SAMPLE (A=AIR, T=TISSUE, H=HAZARDOUS MATERIAL, S=SEDIMENT/SOIL, W=WATER)
AIRS/STORET LOC. NO. = A SAMPLING SITE LOCATION IDENTIFICATION NUMBER
BEG. DATE = THE DATE SAMPLING WAS STARTED
BEG. TIME = THE TIME SAMPLING WAS STARTED
END. DATE = THE DATE SAMPLING WAS ENDED
END. TIME = THE TIME SAMPLING WAS STOPPED
A = RESERVED
B = RESERVED
PES = PESTICIDES BY CONTRACT
= DIOXINS/FURANS BY EPA
E = EXPLOSIVES BY CONTRACT
FLD = FIELD MEASUREMENTS BY EPA
G = MINERALS & DISSOLVED MATERIALS BY EPA
HER = HERBICIDES BY EPA
I = ION CHROMATOGRAPHY ANALYSES BY EPA
MC = METALS BY CONTRACT
BNC = BASE NEUTRALS BY CONTRACT
L = FISH PHYSICAL DATA BY EPA
MET = METALS BY EPA
N = FISH TISSUE PARAMETERS BY EPA
VC = VOLATILES BY CONTRACT
P = PESTICIDES BY EPA
Q = FLASH POINT ANALYSES BY EPA
R = RESERVED
BN = SEMIVOLATILE BY EPA
T = CYANIDE PHENOL BY EPA
U = RESERVED
VOA = VOLATILE ORGANICS BY EPA
HC = HERBICIDES BY CONTRACT
X = RESERVED
Y = RESERVED
TRK = ACTIVITY TRACKING PARAMETERS BY EPA

STORET DETECTION IDENTIFIERS
BLANK = NO REMARKS
J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES
I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
U = LESS THAN (MEASUREMENT DETECTION LIMIT)
M = DETECTED BUT BELOW THE LEVEL FOR ACCURATE QUANTIFICATION
O = PARAMETER NOT ANALYZED

CONTRACTOR/ IN HOUSE / FIELD MEDIA GROUPS
FIELD = * * * = AF,HF,SF,TF,WF,ZZ
CONTRACTOR = * = HA,HC,HJ,HK,HO,SC,SJ,SK,SO,SW,TC,TJ, TK,TO,TW,WA,WC,WE,WJ,WK,WO,WW
IN HOUSE = * = ALL OTHERS

QUALITY CONTROL AUDIT CODES
A = TRUE VALUE FOR CALIBRATION STANDARD
B = CONCENTRATION RESULTING FROM DUPLICATE LAB SPIKE
C = MEASURED VALUE FOR CALIBRATION STANDARD
D = MEASURED VALUE FOR FIELD DUPLICATE
F = MEASURED VALUE FOR FIELD BLANK
G = MEASURED VALUE FOR METHOD STANDARD
H = TRUE VALUE FOR METHOD STANDARD
K = CONCENTRATION RESULTING FROM DUPLICATE FIELD SPIKE
L = MEASURED VALUE FOR LAB DUPLICATE
M = MEASURED VALUE FOR LAB BLANK
N = MEASURED VALUE FOR DUPLICATE FIELD SPIKE
P = MEASURED VALUE FOR PERFORMANCE STANDARD
R = CONCENTRATION RESULTING FROM LAB SPIKE
S = MEASURED VALUE FOR LAB SPIKE
T = TRUE VALUE OF PERFORMANCE STANDARD
W = MEASURED VALUE FOR DUPLICATE LAB SPIKE
Y = MEASURED VALUE FOR FIELD SPIKE
Z = CONCENTRATION RESULTING FROM FIELD SPIKE

MEDIA CODES
A = AIR
T = BIOLOGICAL (PLANT & ANIMAL) TISSUE
H = HAZARDOUS MATERIALS/MAN MADE PRODUCTS
S = SEDIMENT, SLUDGE & SOIL
W = WATER

UNITS
NA = NOT APPLICABLE
PG = PICOGRAMS (1 X 10-12 GRAMS)
NG = NANOGRAMS (1 X 10-9 GRAMS)
UG = MICROGRAMS (1 X 10-6 GRAMS)
MG = MILLIGRAMS (1 X 10-3 GRAMS)
M3 = METER CUBED
MPH = MILES PER HOUR
SCM = STANDARD (1 ATM, 25 C) CUBIC METER
KG = KILOGRAM
L = LITER
C = CENTIGRADE DEGREES
SU = STANDARD (PH) UNITS
# = NUMBER
LB = POUNDS
IN = INCHES
M/F = MALE/FEMALE
M2 = SQUARE METER
I.D. = SPECIES IDENTIFICATION
GPM = GALLONS PER MINUTE
CFS = CUBIC FEET PER SECOND
MGD = MILLION GALLONS PER DAY
1000G= FLOW, 1000 GALLONS PER COMPOSITE
UMHOS= CONDUCTIVITY UNITS (1/OHMS)
NTU = TURBIDITY UNITS
PC/L = PICO (1 X 10-12) CURRIES PER LITER
MV = MILLIVOLT
SQ FT= SQUARE FEET
P/CM2= PICOGRAMS PER SQ. CENTIMETER
U/CM2= MICROGRAMS PER SQ. CENTIMETER

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SM01 SILVER BY ICAP	MG/KG	2.1	U	2.5	U	2.3	U	2.3	U	2.5	U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	3000		8300		4300		7000		6900	
SM03 ARSENIC, TOTAL, BY ICAP	MG/KG	2.1	U	2.5	U	2.3	U	3.0	J	10	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	42	U	84		47		83		100	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	1.0	U	1.2	U	1.1	U	1.1	U	1.2	U
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	1.0	U	1.2	U	1.1	U	1.1	U	1.2	U
SM07 COBALT, TOTAL, BY ICAP	MG/KG	10	U	12	U	11	U	11	U	12	U
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	6.7		15		10		12		11	
SM09 COPPER, TOTAL, BY ICAP	MG/KG	5.2	U	6.3		7.9		7.0		9.8	
SM10 IRON BY ICAP	MG/KG	8100		14000		9500		14000		28000	
SM11 MANGANESE BY ICAP	MG/KG	170	J	490	J	200	J	280	J	51	J
SM12 MOLYBDENUM BY ICAP	MG/KG	NA	O	NA	O	NA	O	NA	O	NA	O
SM13 NICKEL BY ICAP	MG/KG	8.4	U	13		9.7		12		9.9	U
SM14 LEAD BY ICAP	MG/KG	2.6		9.0		21		12		69	
SM15 ANTIMONY, TOTAL, BY ICAP	MG/KG	13	U	15	U	14	U	14	U	15	U
SM16 SELENIUM BY ICAP	MG/KG	1.0	U	1.2	U	1.1	U	1.1	U	1.4	
SM17 TITANIUM BY ICAP	MG/KG	NA	O	NA	O	NA	O	NA	O	NA	O
SM18 THALLIUM BY ICAP	MG/KG	2.1	U	2.5	U	2.3	U	2.3	U	2.5	U
SM19 VANADIUM BY ICAP	MG/KG	10	U	22		12		18		25	
SM20 ZINC BY ICAP	MG/KG	14	J	28	J	33	J	44	J	33	J
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	2100	J	4500	J	8700	J	14000	J	5500	J
SM22 MAGNESIUM BY ICAP	MG/KG	1000	U	1800		3000		4100		1300	
SM23 SODIUM BY ICAP	MG/KG	1000	U	1200	U	1100	U	1100	U	1200	U
SM24 POTASSIUM BY ICAP	MG/KG	1000	U	1200	U	1100	U	1100	U	1200	U
SM34 MERCURY BY COLD VAPOR AA	MG/KG	0.10	U	0.12	U	0.11	U	0.11	U	0.12	U
SS01 PHENOL	UG/KG	690	U	730	U	1400	U	760	U	770	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SS02 CARBAZOLE	UG/KG	NA	O	NA	O	NA	O	NA	O	NA	O
SS03 ETHER, BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS04 2-CHLOROPHENOL	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS05 1,3-DICHLOROBENZENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS06 1,4-DICHLOROBENZENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS07 BENZYL ALCOHOL	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS08 1,2-DICHLOROBENZENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS09 2-METHYLPHENOL (O-CRESOL)	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS10 WTHER, BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS11 4-METHYLPHENOL (P-CRESOL)	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS12 N-NITROSO-DIPROPYLAMINE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS13 HEXACHLOROETHANE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS14 NITROBENZENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS15 ISOPHORONE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS16 2-NITROPHENOL	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS17 2,4-DIMETHYLPHENOL	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	3300	U	3600	U	7000	U	3700	U	3700	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS20 2,4-DICHLOROPHENOL	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS21 1,2,4-TRICHLOROBENZENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS22 NAPHTHALENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS23 4-CHLOROANILINE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS24 HEXACHLOROBUTADIENE,BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS25 4-CHLORO-3-METHYLPHENOL	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS26 2-METHYLNAPHTHALENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS27 HEXACHLOROCYCLOPENTADIENE,BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SS28 2,4,6-TRICHLOROPHENOL	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS29 2,4,5-TRICHLOROPHENOL	UG/KG	3300	U	3600	U	7000	U	3700	U	3700	U
SS30 2-CHLORONAPHTHALENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS31 2-NITROANILINE	UG/KG	3300	U	3600	U	7000	U	3700	U	3700	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	690	U	730	U	4900		1400		770	U
SS34 3-NITROANILINE	UG/KG	3300	U	3600	U	7000	U	3700	U	3700	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS36 2,4-DINITROPHENOL	UG/KG	3300	U	3600	U	7000	U	3700	U	3700	U
SS37 4-NITROPHENOL	UG/KG	3300	U	3600	U	7000	U	3700	U	3700	U
SS38 DIBENZOFURAN	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS39 2,4-DINITROTOLUENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS40 2,6-DINITROTOLUENE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS42 4-CHLOROPHENYL PHENYL ETHER	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS43 FLUORENE,GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS44 4-NITROANILINE	UG/KG	3300	U	3600	U	7000	U	3700	U	3700	U
SS45 4,6-DINITRO-2-METHYLPHENOL	UG/KG	3300	U	3600	U	7000	U	3700	U	3700	U
SS46 N-NITROSODIPHENYLAMINE	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS47 4-BROMOPHENYL PHENYL ETHER	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS48 HEXACHLOROBENZENE,BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS49 PENTACHLOROPHENOL	UG/KG	3300	U	3600	U	7000	U	3700	U	3700	U
SS50 PHENANTHRENE	UG/KG	690	U	730	U	2000		760	U	770	U
SS51 ANTHRACENE, BY GC/MS	UG/KG	690	U	730	U	1800		760	U	770	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS53 FLUORANTHENE,BY GC/MS	UG/KG	690	U	730	U	12000		3500		770	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SS54 PYRENE	UG/KG	690	U	730	U	16000		5600		770	U
ST09 CYANIDE, TOTAL	MG/KG	5.2	U	6.2	U	5.7	U	5.7	U	6.2	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	10	U	11	U	11	U	11	U	11	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	10	U	11	U	11	U	11	U	11	U
SV05 VINYL CHLORIDE	UG/KG	10	U	11	U	11	U	11	U	11	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	10	U	11	U	11	U	11	U	11	U
SV07 METHYLENE CHLORIDE	UG/KG	14		5.3	U	15		15		5.6	U
SV08 1,1-DICHLOROETHYLENE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV09 1,1-DICHLOROETHANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV10 TRANS-1,2-DICHLOROETHYLENE	UG/KG	NA	O	NA	O	NA	O	NA	O	NA	O
SV11 CHLOROFORM, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV12 1,2-DICHLOROETHANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV13 1,1,1-TRICHLOROETHANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	12	
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV16 1,2-DICHLOROPROPANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV17 BENZENE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV18 TRANS-1,3-DICHLOROPROPENE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV19 TRICHLOROETHYLENE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV20 DICHLOROPROPENE, CIS-1,3-, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV22 1,1,2-TRICHLOROETHANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV24 BROMOFORM, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV25 1,1,2,2-TETRACHLOROETHENE	UG/KG	12		5.3	U	5.3	U	5.7	U	15	
SV26 TOLUENE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U

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ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SS54 PYRENE	UG/KG	690	U	730	U	16000		5600		770	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS56 3,3'-DICHLOROBENZIDINE	UG/KG	1400	U	1500	U	2900	U	1500	U	1500	U
SS57 ANTRACENE, BENZO(A), BY GC/MS	UG/KG	690	U	730	U	14000		3800		770	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS59 CHRYSENE, BY GC/MS	UG/KG	690	U	730	U	11000		3300		770	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	690	U	730	U	21000		5900		770	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	690	U	730	U	1400	U	760	U	770	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	690	U	730	U	9200		3800		770	U
SS64 INDENO(1,2,3-CD)PYRENE	UG/KG	690	U	730	U	4800		1400		770	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	690	U	730	U	1500		760	U	770	U
SS66 PERYLENE, BENZO(G,H,I), BY GC/MS	UG/KG	690	U	730	U	4800		1200		770	U
ST09 CYANIDE, TOTAL	MG/KG	5.2	U	6.2	U	5.7	U	5.7	U	6.2	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	10	U	11	U	11	U	11	U	11	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	10	U	11	U	11	U	11	U	11	U
SV05 VINYL CHLORIDE	UG/KG	10	U	11	U	11	U	11	U	11	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	10	U	11	U	11	U	11	U	11	U
SV07 METHYLENE CHLORIDE	UG/KG	14		5.3	U	15		15		5.6	U
SV08 1,1-DICHLOROETHYLENE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV09 1,1-DICHLOROETHANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV10 TRANS-1,2-DICHLOROETHYLENE	UG/KG	NA	O	NA	O	NA	O	NA	O	NA	O
SV11 CHLOROFORM, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV12 1,2-DICHLOROETHANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV13 1,1,1-TRICHLOROETHANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	12	
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV16 1,2-DICHLOROPROPANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV17 BENZENE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV18 TRANS-1,3-DICHLOROPROPENE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV19 TRICHLOROETHYLENE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV20 DICHLOROPROPENE, CIS-1,3-, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV22 1,1,2-TRICHLOROETHANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV24 BROMOFORM, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV25 1,1,2,2-TETRACHLOROETHENE	UG/KG	12		5.3	U	5.3	U	5.7	U	15	
SV26 TOLUENE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV27 1,1,2,2-TETRACHLOROETHANE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV29 ETHYL BENZENE,BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV30 ACETONE, BY GC/MS	UG/KG	49	J	12	U	11	U	11	U	11	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV32 2-BUTANONE	UG/KG	10	U	11	U	11	U	11	U	11	U
SV33 VINYL ACETATE	UG/KG	10	U	11	U	11	U	11	U	11	U
SV34 2-HEXANONE	UG/KG	10	U	11	U	11	U	11	U	11	U
SV35 4-METHYL-2-PENTANONE	UG/KG	10	U	11	U	11	U	11	U	11	U
SV36 STYRENE	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
SV37 XYLENES, TOTAL	UG/KG	5.2	U	5.3	U	5.3	U	5.7	U	5.6	U
ZZ01 SAMPLE NUMBER	NA	001		002		003		004		005	
ZZ02 ACTIVITY CODE	NA	DSX72		DSX72		DSX72		DSX72		DSX72	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

	COMPOUND	UNITS	006		007		008		008D		010F
SM01	SILVER BY ICAP	MG/KG	2.6	U	2.3	U	2.7	U	2.6	U	
SM02	ALUMINUM, TOTAL, BY ICAP	MG/KG	12000		10000		15000		14000		
SM03	ARSENIC, TOTAL, BY ICAP	MG/KG	5.7		4.8	J	4.2		4.9		
SM04	BARIUM, TOTAL, BY ICAP	MG/KG	190		110		170		220		
SM05	BERYLLIUM, TOTAL, BY ICAP	MG/KG	1.3	U	1.2	U	1.4	U	1.3	U	
SM06	CADMIUM, TOTAL, BY ICAP	MG/KG	1.3	U	1.2	U	1.4	U	1.3	U	
SM07	COBALT, TOTAL, BY ICAP	MG/KG	13	U	12	U	14	U	13	U	
SM08	CHROMIUM, TOTAL, BY ICAP	MG/KG	18		14		20		18		
SM09	COPPER, TOTAL, BY ICAP	MG/KG	19		7.8		12	U	11		
SM10	IRON BY ICAP	MG/KG	41000		14000		20000		21000		
SM11	MANGANESE BY ICAP	MG/KG	95	J	680	J	1200	J	1400	J	
SM12	MOLYBDENUM BY ICAP	MG/KG	NA	O	NA	O	NA	O	NA	O	
SM13	NICKEL BY ICAP	MG/KG	11		13		18		17		
SM14	LEAD BY ICAP	MG/KG	29		13		13		18		
SM15	ANTIMONY, TOTAL, BY ICAP	MG/KG	16	U	14	U	16	U	15	U	
SM16	SELENIUM BY ICAP	MG/KG	1.3	U	1.2	U	1.4	U	1.3	U	
SM17	TITANIUM BY ICAP	MG/KG	NA	O	NA	O	NA	O	NA	O	
SM18	THALLIUM BY ICAP	MG/KG	2.6	U	2.3	U	2.7	U	2.6	U	
SM19	VANADIUM BY ICAP	MG/KG	30		24		34		33		
SM20	ZINC BY ICAP	MG/KG	52	J	40	J	56	J	64	J	
SM21	CALCIUM, TOTAL, BY ICAP	MG/KG	6200	J	3900	J	5700	J	7000	J	
SM22	MAGNESIUM BY ICAP	MG/KG	1800		1700		2800		2900		
SM23	SODIUM BY ICAP	MG/KG	1300	U	1200	U	1400	U	1300	U	
SM24	POTASSIUM BY ICAP	MG/KG	1500	U	1200	U	1400	U	1300	U	
SM34	MERCURY BY COLD VAPOR AA	MG/KG	0.13	U	0.12	U	0.14	U	0.13	U	
SS01	PHENOL	UG/KG	870	U	760	U	800	U	810	U	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	006		007		008		008D		010F
SS02 CARBAZOLE	UG/KG	NA	O	NA	O	NA	O	NA	O	
SS03 ETHER, BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS04 2-CHLOROPHENOL	UG/KG	870	U	760	U	800	U	810	U	
SS05 1,3-DICHLOROBENZENE	UG/KG	870	U	760	U	800	U	810	U	
SS06 1,4-DICHLOROBENZENE	UG/KG	870	U	760	U	800	U	810	U	
SS07 BENZYL ALCOHOL	UG/KG	870	U	760	U	800	U	810	U	
SS08 1,2-DICHLOROBENZENE	UG/KG	870	U	760	U	800	U	810	U	
SS09 2-METHYLPHENOL (O-CRESOL)	UG/KG	870	U	760	U	800	U	810	U	
SS10 WTHER, BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS11 4-METHYLPHENOL (P-CRESOL)	UG/KG	870	U	760	U	800	U	810	U	
SS12 N-NITROSO-DIPROPYLAMINE	UG/KG	870	U	760	U	800	U	810	U	
SS13 HEXACHLOROETHANE	UG/KG	870	U	760	U	800	U	810	U	
SS14 NITROBENZENE	UG/KG	870	U	760	U	800	U	810	U	
SS15 ISOPHORONE	UG/KG	870	U	760	U	800	U	810	U	
SS16 2-NITROPHENOL	UG/KG	870	U	760	U	800	U	810	U	
SS17 2,4-DIMETHYLPHENOL	UG/KG	870	U	760	U	800	U	810	U	
SS18 BENZOIC ACID, BY GC/MS	UG/KG	4200	U	3700	U	3900	U	4000	U	
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS20 2,4-DICHLOROPHENOL	UG/KG	870	U	760	U	800	U	810	U	
SS21 1,2,4-TRICHLOROBENZENE	UG/KG	870	U	760	U	800	U	810	U	
SS22 NAPHTHALENE	UG/KG	870	U	760	U	800	U	810	U	
SS23 4-CHLOROANILINE	UG/KG	870	U	760	U	800	U	810	U	
SS24 HEXACHLOROBUTADIENE,BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS25 4-CHLORO-3-METHYLPHENOL	UG/KG	870	U	760	U	800	U	810	U	
SS26 2-METHYLNAPHTHALENE	UG/KG	870	U	760	U	800	U	810	U	
SS27 HEXACHLOROCYCLOPENTADIENE,BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	006		007		008		008D		010F
SS28 2,4,6-TRICHLOROPHENOL	UG/KG	870	U	760	U	800	U	810	U	
SS29 2,4,5-TRICHLOROPHENOL	UG/KG	4200	U	3700	U	3900	U	4000	U	
SS30 2-CHLORONAPHTHALENE	UG/KG	870	U	760	U	800	U	810	U	
SS31 2-NITROANILINE	UG/KG	4200	U	3700	U	3900	U	4000	U	
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS34 3-NITROANILINE	UG/KG	4200	U	3700	U	3900	U	4000	U	
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS36 2,4-DINITROPHENOL	UG/KG	4200	U	3700	U	3900	U	4000	U	
SS37 4-NITROPHENOL	UG/KG	4200	U	3700	U	3900	U	4000	U	
SS38 DIBENZOFURAN	UG/KG	870	U	760	U	800	U	810	U	
SS39 2,4-DINITROTOLUENE	UG/KG	870	U	760	U	800	U	810	U	
SS40 2,6-DINITROTOLUENE	UG/KG	870	U	760	U	800	U	810	U	
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS42 4-CHLOROPHENYL PHENYL ETHER	UG/KG	870	U	760	U	800	U	810	U	
SS43 FLUORENE,GC/MS	UG/KG	870	U	760		1400		810	U	
SS44 4-NITROANILINE	UG/KG	4200	U	3700	U	3900	U	4000	U	
SS45 4,6-DINITRO-2-METHYLPHENOL	UG/KG	4200	U	3700	U	3900	U	4000	U	
SS46 N-NITROSODIPHENYLAMINE	UG/KG	870	U	760	U	800	U	810	U	
SS47 4-BROMOPHENYL PHENYL ETHER	UG/KG	870	U	760	U	800	U	810	U	
SS48 HEXACHLOROBENZENE BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS49 PENTACHLOROPHENOL	UG/KG	4200	U	3700	U	3900	U	4000	U	
SS50 PHENANTHRENE	UG/KG	1600		3400		5800		2100		
SS51 ANTHRACENE, BY GC/MS	UG/KG	870	U	760	U	890		810	U	
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	870	U	760	U	800	U	810	U	
SS53 FLUORANTHENE,BY GC/MS	UG/KG	1700		3400		4000		1200		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	006		007		008		008D		010F	
SS54 PYRENE	UG/KG	2600		1600		3700		1400			
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	870	U	760	U	800	U	810	U		
SS56 3,3'-DICHLOROBENZIDINE	UG/KG	1700	U	1500	U	1600	U	1600	U		
SS57 ANTRACENE, BENZO(A), BY GC/MS	UG/KG	1500		2500		1900		810	U		
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	870	U	760	U	800	U	810	U		
SS59 CHRYSENE, BY GC/MS	UG/KG	870	U	760	U	800	U	820			
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	870	U	760	U	800	U	810	U		
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	1100	J	1000	J	1200	J	810	U		
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	870	U	760	U	800	U	810	U		
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	1100		760	U	800	U	810	U		
SS64 INDENO(1,2,3-CD)PYRENE	UG/KG	870	U	760	U	800	U	810	U		
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	870	U	760	U	800	U	810	U		
SS66 PERYLENE, BENZO(G,H,I), BY GC/MS	UG/KG	870	U	760	U	800	U	810	U		
ST09 CYANIDE, TOTAL	MG/KG	6.5	U	5.8	U	6.8	U	6.4	U		
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	12	U	11	U	12	U	12	U	25	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	12	U	11	U	12	U	12	U	25	U
SV05 VINYL CHLORIDF	UG/KG	12	U	11	U	12	U	12	U	25	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	12	U	11	U	12	U	12	U	25	U
SV07 METHYLENE CHLORIDE	UG/KG	14		5.6	U	6.1		7.0	J	17	
SV08 1,1-DICHLOROETHYLENE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV09 1,1-DICHLOROETHANE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV10 TRANS-1,2-DICHLOROETHYLENE	UG/KG	NA	O	NA	O	NA	O	NA	O	NA	O
SV11 CHLOROFORM, BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV12 1,2-DICHLOROETHANE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV13 1,1,1-TRICHLOROETHANE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	006		007		008		008D		010F	
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV16 1,2-DICHLOROPROPANE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV17 BENZENE, BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV18 TRANS-1,3-DICHLOROPROPENE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV19 TRICHLOROETHYLENE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV20 DICHLOROPROPENE, CIS-1,3-, BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV22 1,1,2-TRICHLOROETHANE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV24 BROMOFORM, BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV25 1,1,2,2-TETRACHLOROETHENE	UG/KG	13		22		20		21	J	13	U
SV26 TOLUENE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	14	
SV27 1,1,2,2-TETRACHLOROETHANE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	220	
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV29 ETHYL BENZENE,BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV30 ACETONE, BY GC/MS	UG/KG	12	U	11	U	12	U	12	J	30	
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV32 2-BUTANONE	UG/KG	12	U	11	U	12	U	12	U	140	J
SV33 VINYL ACETATE	UG/KG	12	U	11	U	12	U	12	U	25	U
SV34 2-HEXANONE	UG/KG	12	U	11	U	12	U	12	U	25	U
SV35 4-METHYL-2-PENTANONE	UG/KG	12	U	11	U	12	U	12	U	25	U
SV36 STYRENE	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
SV37 XYLENES, TOTAL	UG/KG	6.0	U	5.6	U	6.0	U	6.0	U	13	U
ZZ01 SAMPLE NUMBER	NA	006		007		008		008		010	
ZZ02 ACTIVITY CODE	NA	DSX72		DSX72		DSX72		DSX72		DSX72	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

	COMPOUND	UNITS	101		103	104	105F	106F
SM01	SILVER BY ICAP	MG/KG	2.2	U				
SM02	ALUMINUM, TOTAL, BY ICAP	MG/KG	5300					
SM03	ARSENIC, TOTAL, BY ICAP	MG/KG	2.3					
SM04	BARIUM, TOTAL, BY ICAP	MG/KG	48					
SM05	BERYLLIUM, TOTAL, BY ICAP	MG/KG	1.1	U				
SM06	CADMIUM, TOTAL, BY ICAP	MG/KG	1.1	U				
SM07	COBALT, TOTAL, BY ICAP	MG/KG	11	U				
SM08	CHROMIUM, TOTAL, BY ICAP	MG/KG	9.2					
SM09	COPPER, TOTAL, BY ICAP	MG/KG	5.6					
SM10	IRON BY ICAP	MG/KG	9300					
SM11	MANGANESE BY ICAP	MG/KG	300	J				
SM12	MOLYBDENUM BY ICAP	MG/KG	NA	O				
SM13	NICKEL BY ICAP	MG/KG	9.1					
SM14	LEAD BY ICAP	MG/KG	12					
SM15	ANTIMONY, TOTAL, BY ICAP	MG/KG	13	U				
SM16	SELENIUM BY ICAP	MG/KG	1.1	U				
SM17	TITANIUM BY ICAP	MG/KG	NA	O				
SM18	THALLIUM BY ICAP	MG/KG	2.2	U				
SM19	VANADIUM BY ICAP	MG/KG	15					
SM20	ZINC BY ICAP	MG/KG	28	J				
SM21	CALCIUM, TOTAL BY ICAP	MG/KG	13000	J				
SM22	MAGNESIUM BY ICAP	MG/KG	2100					
SM23	SODIUM BY ICAP	MG/KG	1100	U				
SM24	POTASSIUM BY ICAP	MG/KG	1100	U				
SM34	MERCURY BY COLD VAPOR AA	MG/KG	0.11	U				
SS01	PHENOL	UG/KG	730	U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	101		103	104	105F	106F
SS02 CARBAZOLE	UG/KG	NA	O				
SS03 ETHER, BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	730	U				
SS04 2-CHLOROPHENOL	UG/KG	730	U				
SS05 1,3-DICHLOROBENZENE	UG/KG	730	U				
SS06 1,4-DICHLOROBENZENE	UG/KG	730	U				
SS07 BENZYL ALCOHOL	UG/KG	730	U				
SS08 1,2-DICHLOROBENZENE	UG/KG	730	U				
SS09 2-METHYLPHENOL (O-CRESOL)	UG/KG	730	U				
SS10 WTHER, BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	730	U				
SS11 4-METHYLPHENOL (P-CRESOL)	UG/KG	730	U				
SS12 N-NITROSO-DIPROPYLAMINE	UG/KG	730	U				
SS13 HEXACHLOROETHANE	UG/KG	730	U				
SS14 NITROBENZENE	UG/KG	730	U				
SS15 ISOPHORONE	UG/KG	730	U				
SS16 2-NITROPHENOL	UG/KG	730	U				
SS17 2,4-DIMETHYLPHENOL	UG/KG	730	U				
SS18 BENZOIC ACID, BY GC/MS	UG/KG	3500	U				
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	730	U				
SS20 2,4-DICHLOROPHENOL	UG/KG	730	U				
SS21 1,2,4-TRICHLOROBENZENE	UG/KG	730	U				
SS22 NAPHTHALENE	UG/KG	730	U				
SS23 4-CHLOROANILINE	UG/KG	730	U				
SS24 HEXACHLOROBUTADIENE,BY GC/MS	UG/KG	730	U				
SS25 4-CHLORO-3-METHYLPHENOL	UG/KG	730	U				
SS26 2-METHYLNAPHTHALENE	UG/KG	730	U				
SS27 HEXACHLOROCYCLOPENTADIENE,BY GC/MS	UG/KG	730	U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	101		103	104	105F	106F
SS28 2,4,6-TRICHLOROPHENOL	UG/KG	730	U				
SS29 2,4,5-TRICHLOROPHENOL	UG/KG	3500	U				
SS30 2-CHLORONAPHTHALENE	UG/KG	730	U				
SS31 2-NITROANILINE	UG/KG	3500	U				
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	730	U				
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	730	U				
SS34 3-NITROANILINE	UG/KG	3500	U				
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	730	U				
SS36 2,4-DINITROPHENOL	UG/KG	3500	U				
SS37 4-NITROPHENOL	UG/KG	3500	U				
SS38 DIBENZOFURAN	UG/KG	730	U				
SS39 2,4-DINITROTOLUENE	UG/KG	730	U				
SS40 2,6-DINITROTOLUENE	UG/KG	730	U				
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	730	U				
SS42 4-CHLOROPHENYL PHENYL ETHER	UG/KG	730	U				
SS43 FLUORENE,GC/MS	UG/KG	730	U				
SS44 4-NITROANILINE	UG/KG	3500	U				
SS45 4,6-DINITRO-2-METHYLPHENOL	UG/KG	3500	U				
SS46 N-NITROSODIPHENYLAMINE	UG/KG	730	U				
SS47 4-BROMOPHENYL PHENYL ETHER	UG/KG	730	U				
SS48 HEXACHLOROBENZENE,BY GC/MS	UG/KG	730	U				
SS49 PENTACHLOROPHENOL	UG/KG	3500	U				
SS50 PHENANTHRENE	UG/KG	730	U				
SS51 ANTHRACENE, BY GC/MS	UG/KG	730	U				
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	730	U				
SS53 FLUORANTHENE,BY GC/MS	UG/KG	730	U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	101		103	104	105F	106F
SS54 PYRENE	UG/KG	730	U				
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	730	U				
SS56 3,3'-DICHLOROBENZIDINE	UG/KG	1500	U				
SS57 ANTRACENE, BENZO(A), BY GC/MS	UG/KG	730	U				
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	730	U				
SS59 CHRYSENE, BY GC/MS	UG/KG	730	U				
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	730	U				
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	730	U				
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	730	U				
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	730	U				
SS64 INDENO(1,2,3-CD)PYRENE	UG/KG	730	U				
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	730	U				
SS66 PERYLENE, BENZO(G,H,I), BY GC/MS	UG/KG	730	U				
ST09 CYANIDE, TOTAL	MG/KG	5.4	U				
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	11	U				
SV04 BROMOMETHANE, BY GC/MS	UG/KG	11	U				
SV05 VINYL CHLORIDE	UG/KG	11	U				
SV06 CHLOROETHANE, BY GC/MS	UG/KG	11	U				
SV07 METHYLENE CHLORIDE	UG/KG	5.3	U				
SV08 1,1-DICHLOROETHYLENE	UG/KG	5.3	U				
SV09 1,1-DICHLOROETHANE	UG/KG	5.3	U				
SV10 TRANS-1,2-DICHLOROETHYLENE	UG/KG	NA	O				
SV11 CHLOROFORM, BY GC/MS	UG/KG	5.3	U				
SV12 1,2-DICHLOROETHANE	UG/KG	5.3	U				
SV13 1,1,1-TRICHLOROETHANE	UG/KG	5.3	U				
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	5.3	U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	101		103		104		105F		106F	
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	5.3	U								
SV16 1,2-DICHLOROPROPANE	UG/KG	5.3	U								
SV17 BENZENE, BY GC/MS	UG/KG	5.3	U								
SV18 TRANS-1,3-DICHLOROPROPENE	UG/KG	5.3	U								
SV19 TRICHLOROETHYLENE	UG/KG	5.3	U								
SV20 DICHLOROPROPENE, CIS-1,3-, BY GC/MS	UG/KG	5.3	U								
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	5.3	U								
SV22 1,1,2-TRICHLOROETHANE	UG/KG	5.3	U								
SV24 BROMOFORM, BY GC/MS	UG/KG	5.3	U								
SV25 1,1,2,2-TETRACHLOROETHENE	UG/KG	13									
SV26 TOLUENE	UG/KG	5.3	U								
SV27 1,1,2,2-TETRACHLOROETHANE	UG/KG	5.3	U								
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	5.3	U								
SV29 ETHYL BENZENE,BY GC/MS	UG/KG	5.3	U								
SV30 ACETONE, BY GC/MS	UG/KG	11	U								
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	5.3	U								
SV32 2-BUTANONE	UG/KG	11	U								
SV33 VINYL ACETATE	UG/KG	11	U								
SV34 2-HEXANONE	UG/KG	11	U								
SV35 4-METHYL-2-PENTANONE	UG/KG	11	U								
SV36 STYRENE	UG/KG	5.3	U								
SV37 XYLENES, TOTAL	UG/KG	5.3	U								
WM01 SILVER BY ICAP	UG/L			10	U	10	U			10	U
WM02 ALUMINUM, TOTAL, BY ICAP	UG/L			200	U	200	U			200	U
WM03 ARSENIC, TOTAL, BY ICAP	UG/L			10	U	10	U			10	U
WM04 BARIUM, TOTAL, BY ICAP	UG/L			200	U	200	U			200	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	101	103		104		105F	106F	
WM05 BERYLLIUM, TOTAL, BY ICAP	UG/L		5.0	U	5.0	U		5.0	U
WM06 CADMIUM, TOTAL, BY ICAP	UG/L		5.0	U	5.0	U		5.0	U
WM07 COBALT, TOTAL, BY ICAP	UG/L		50	U	50	U		50	U
WM08 CHROMIUM, TOTAL, BY ICAP	UG/L		10	U	10	U		10	U
WM09 COPPER, TOTAL, BY ICAP	UG/L		25	U	25	U		25	U
WM10 IRON BY ICAP	UG/L		100	U	100	U		100	U
WM11 MANGANESE BY ICAP	UG/L		15	U	NA	O		15	U
WM12 MOLYBDENUM BY ICAP	UG/L		NA	O	15	U		NA	O
WM13 NICKEL BY ICAP	UG/L		40	U	40	U		40	U
WM14 LEAD BY ICAP	UG/L		3.0	U	4.0	U		3.0	U
WM15 ANTIMONY, TOTAL, BY ICAP	UG/L		60	U	60	U		60	U
WM16 SELENIUM BY ICAP	UG/L		5.0	U	5.0	U		5.0	U
WM17 TITANIUM BY ICAP	UG/L		NA	O	NA	O		NA	O
WM18 THALLIUM BY ICAP	UG/L		10	U	10	U		10	U
WM19 VANADIUM BY ICAP	UG/L		50	U	50	U		50	U
WM20 ZINC BY ICAP	UG/L		20	U	20	U		20	U
WM21 CALCIUM, TOTAL BY ICAP	MG/L		71		65			5.0	U
WM22 MAGNESIUM, TOTAL BY ICAP	MG/L		20		19			5.0	U
WM23 SODIUM, TOTAL BY ICAP	MG/L		7.8		5.6			5.0	U
WM24 POTASSIUM, TOTAL BY ICAP	MG/L		5.0	U	5.0	U		5.0	U
WM34 MERCURY BY COLD VAPOR AA	UG/L		0.20	U	0.20	U		0.20	U
WS01 PHENOL	UG/L		20	U	10	U		10	U
WS03 ETHER, BIS(2-CHLOROETHYL), BY GC/MS	UG/L		20	U	10	U		10	U
WS04 2-CHLOROPHENOL	UG/L		20	U	10	U		10	U
WS05 1,3-DICHLOROBENZENE	UG/L		20	U	10	U		10	U
WS06 1,4-DICHLOROBENZENE	UG/L		20	U	10	U		10	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	101	103	104	105F	106F
WS07 BENZYL ALCOHOL	UG/L		20 U	10 U		10 U
WS08 1,2-DICHLOROBENZENE	UG/L		20 U	10 U		10 U
WS09 2-METHYLPHENOL (O-CRESOL)	UG/L		20 U	10 U		10 U
WS10 ETHER, BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/L		20 U	10 U		10 U
WS11 4-METHYLPHENOL (P-CRESOL)	UG/L		20 U	10 U		10 U
WS12 N-NITROSO-DIPROPYLAMINE	UG/L		20 U	10 U		10 U
WS13 HEXACHLOROETHANE	UG/L		20 U	10 U		10 U
WS14 NITROBENZENE	UG/L		20 U	10 U		10 U
WS15 ISOPHORONE	UG/L		20 U	10 U		10 U
WS16 2-NITROPHENOL	UG/L		20 U	10 U		10 U
WS17 2,4-DIMETHYLPHENOL	UG/L		20 U	10 U		10 U
WS18 BENZOIC ACID, BY GC/MS	UG/L		100 U	50 U		50 U
WS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/L		20 U	10 U		10 U
WS20 2,4-DICHLOROPHENOL	UG/L		20 U	10 U		10 U
WS21 1,2,4-TRICHLOROBENZENE	UG/L		20 U	10 U		10 U
WS22 NAPHTHALENE	UG/L		20 U	10 U		10 U
WS23 4-CHLOROANILINE	UG/L		20 U	10 U		10 U
WS24 HEXACHLOROBUTADIENE,BY GC/MS	UG/L		20 U	10 U		10 U
WS25 4-CHLORO-3-METHYLPHENOL	UG/L		20 U	10 U		10 U
WS26 2-METHYLNAPHTHALENE	UG/L		20 U	10 U		10 U
WS27 HEXACHLOROCYCLOPENTADIENE,BY GC/MS	UG/L		20 U	10 U		10 U
WS28 2,4,6-TRICHLOROPHENOL	UG/L		20 U	10 U		10 U
WS29 2,4,5-TRICHLOROPHENOL	UG/L		100 U	50 U		50 U
WS30 2-CHLORONAPHTHALENE	UG/L		20 U	10 U		10 U
WS31 2-NITROANILINE (ORTHO NITROANILINE)	UG/L		100 U	50 U		50 U
WS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/L		20 U	10 U		10 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	101	103	104	105F	106F
WS33 ACENAPHTHYLENE, BY GC/MS	UG/L		20 U	10 U		10 U
WS34 3-NITROANILINE	UG/L		100 U	50 U		50 U
WS35 ACENAPHTHENE, BY GC/MS	UG/L		20 U	10 U		10 U
WS36 2,4-DINITROPHENOL	UG/L		100 U	50 U		50 U
WS37 4-NITROPHENOL	UG/L		100 U	50 U		50 U
WS38 DIBENZOFURAN	UG/L		20 U	10 U		10 U
WS39 2,4-DINITROTOLUENE	UG/L		20 U	10 U		10 U
WS40 2,6-DINITROTOLUENE	UG/L		20 U	10 U		10 U
WS41 PHTHALATE, DIETHYL, BY GC/MS	UG/L		20 U	10 U		10 U
WS42 4-CHLOROPHENYL PHENYL ETHER	UG/L		20 U	10 U		10 U
WS43 FLUORENE,BY GC/MS	UG/L		20 U	10 U		10 U
WS44 4-NITROANILINE	UG/L		100 U	50 U		50 U
WS45 4,6-DINITRO-2-METHYLPHENOL	UG/L		100 U	50 U		50 U
WS46 N-NITROSODIPHENYLAMINE	UG/L		20 U	10 U		10 U
WS47 4-BROMOPHENYL PHENYL ETHER	UG/L		20 U	10 U		10 U
WS48 HEXACHLOROBENZENE,BY GC/MS	UG/L		20 U	10 U		10 U
WS49 PENTACHLOROPHENOL	UG/L		100 U	50 U		50 U
WS50 PHENANTHRENE	UG/L		20 U	10 U		10 U
WS51 ANTHRACENE, BY GC/MS	UG/L		20 U	10 U		10 U
WS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/L		20 U	10 U		10 U
WS53 FLUORANTHENE,BY GC/MS	UG/L		20 U	10 U		10 U
WS54 PYRENE	UG/L		20 U	10 U		10 U
WS55 PHTHALATE, BUTYL BENZYL	UG/L		20 U	10 U		10 U
WS56 3,3'-DICHLOROBENZIDINE	UG/L		40 U	20 U		20 U
WS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/L		20 U	10 U		10 U
WS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/L		20 U	10 U		10 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	101	103		104		105F		106F	
WS59 CHRYSENE, BY GC/MS	UG/L		20	U	10	U			10	U
WS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/L		20	U	10	U			10	U
WS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/L		20	U	10	U			10	U
WS62 FLUORANTHENE, BENZSO(K), BY GC/MS	UG/L		20	U	10	U			10	U
WS63 PYRENE, BENZO(A), BY GC/MS	UG/L		20	U	10	U			10	U
WS64 INDENO(1,2,3-CD)PYRENE	UG/L		20	U	10	U			10	U
WS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/L		20	U	10	U			10	U
WS66 PERYLENE, BENZO(G,H,I), BY GC/MS	UG/L		20	U	10	U			10	U
WS67 CARBAZOLE	UG/L		NA	O	NA	O			NA	O
WT09 CYANIDE, TOTAL	MG/L		0.020	U	0.010	U			0.010	U
WV03 CHLOROMETHANE, BY GC/MS	UG/L		10	U	10	U	10	U	10	U
WV04 BROMOMETHANE, BY GC/MS	UG/L		10	U	10	U	10	U	10	U
WV05 VINYL CHLORIDE	UG/L		10	U	10	U	10	U	10	U
WV06 CHLOROETHANE, BY GC/MS	UG/L		10	U	10	U	10	U	10	U
WV07 METHYLENE CHLORIDE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV08 1,1-DICHLOROETHENE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV09 1,1-DICHLOROETHANE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV10 1,2-DICHLOROETHENE, TOTAL	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV11 CHLOROFORM, BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV12 1,2-DICHLOROETHANE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV13 1,1,1-TRICHLOROETHANE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV14 CARBON TETRACHLORIDE, BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV15 BROMODICHLOROMETHANE, BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV16 1,2-DICHLOROPROPANE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV17 BENZENE, BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV19 TRICHLOROETHENE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DSX72 VALIDATED DATA

COMPOUND	UNITS	101	103		104		105F		106F	
WV20 DICHLOROPROPENE, CIS-1,3-, BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV22 1,1,2-TRICHLOROETHANE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV24 BROMOFORM, BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV25 TETRACHLOROETHENE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV26 TOLUENE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV28 CHLOROBENZENE, BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV29 ETHYL BENZENE,BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV30 ACETONE, BY GC/MS	UG/L		10	U	10	U	30		10	U
WV31 CARBON DISULFIDE, BY GC/MS	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV32 2-BUTANONE	UG/L		10	U	10	U	10	U	10	U
WV33 VINYL ACETATE	UG/L		10	U	10	U	10	U	10	U
WV34 2-HEXANONE	UG/L		10	U	10	U	10	U	10	U
WV35 4-METHYL-2-PENTANONE	UG/L		10	U	10	U	10	U	10	U
WV36 STYRENE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV37 XYLENES, TOTAL	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
WV40 TRANS-1,3-DICHLOROPROPENE	UG/L		5.0	U	5.0	U	5.0	U	5.0	U
ZZ01 SAMPLE NUMBER	NA	101	103		104		105		106	
ZZ02 ACTIVITY CODE	NA	DSX72	DSX72		DSX72		DSX72		DSX72	

ACTIVITY DSX72 CEDAR FALLS FMGP

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, AIRS, OR ARCHIVE.

CIRCLE ONE: STORET AIRS ARCHIVE

DATA APPROVED BY LABO FOR TRANSMISSION TO PROJECT LEADER ON 09/12/91 15:58:53 BY
FOR A. J.

ENVIRONMENTAL SERVICES ASSISTANCE TEAM -- Zone II

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TO: Barry Evans
Data Review Task Monitor
THRU: Harold Brown, Ph.D.
ESAT Deputy Project Officer, EPA

FROM: John Gilchrist
ESAT Data Reviewer
THRU: Ronald A. Ross
ESAT Team Manager

DATE: August 26, 1991
SUBJECT: Review of volatile and semivolatile organic data for **CEDAR FALLS FMGP** Site.

TID#. 07-9103-535 ASSIGNMENT# 931
ICF ACCT# 26-535-02 MANTECH S.O.# 1073-535
ESAT Document No. ESAT-VII-535-0189

These data were reviewed primarily according to the general "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses," February 1988 revision with changes given in the Region VII Organic Data Review Training Manual and EPA memorandums.

The following comments and attached data sheets are a result of the ESAT review, according to EPA policies, of the following data from the contract laboratory.

CASE NO.: SAS 6568G
SITE: CEDAR FALLS FMGP
REVIEWER: John Gilchrist

LABORATORY: AATS
METHOD NO.: CS0288A
EPA ACTIVITY NO.: DSX72
MATRIX: SOIL

VOLATILES SOIL		SEMIVOLATILES SOIL	
SMO Sample No.	EPA Sample No.	SMO Sample No.	EPA Sample No.
6568G001	DSX72001	6568G017	DSX72001
6568G002	DSX72002	6568G018	DSX72002
6568G003	DSX72003	6568G019	DSX72003
6568G004	DSX72004	6568G020	DSX72004
6568G005	DSX72005	6568G021	DSX72005
6568G006	DSX72006	6568G022	DSX72006
6568G007	DSX72007	6568G023	DSX72007
6568G008	DSX72008	6568G024	DSX72008
6568G009	DSX72008D	6568G025	DSX72008D
6568G011	DSX72101	6568G026	DSX72101

GENERAL

This data review assignment covers 10 SOIL samples analyzed for VOLATILES and 10 SOIL samples analyzed for SEMIVOLATILES for SAS number 6568G. There were no field blanks, two field duplicates and no performance evaluation samples included with this assignment. Data review was performed at level two.

1. Holding Times and Preservation

Volatiles: No technical holding times are specified for soil samples.

Semivolatiles: No technical holding times are specified for holding times from collection to extraction for soil samples. Technical holding times were observed for subsequent analysis of extracts.

2. GC/MS Tuning

Volatiles: All relative ion abundances were within the established control limits.

Semivolatiles: All relative ion abundances were within the established control limits.

3. Initial and Continuing Calibration

Volatiles: All compounds met the criteria of 0.05 for response factors for both initial and continuing calibrations. All compounds were within control limits for %RSD in the initial calibrations. Several compounds were outside the 25% criteria for % difference in the continuing calibrations. Acetone was J coded in sample DSX72001 due to these results.

Semivolatiles: All compounds met the criteria of 0.05 for response factors for both initial and continuing calibrations. Several compounds were outside the control limits for %RSD and % difference criteria for initial and continuing calibrations. Benzo(b)Fluoranthene was J coded in samples DSX72006, DSX72007, and DSX72008 due to these results.

4. Internal Standard Response

Volatiles: Internal standards 1,4-Difluorobenzene and Chlorobenzene were outside control limits in the initial analysis of DSX72008D. All internal standards were within control limits on the re-analysis of this sample. No data were qualified due to this occurrence.

Semivolatiles: All internal standard criteria were within control limits.

5. **Blanks**

Volatiles: Acetone, 2-Hexanone, and Chloroform were detected in the method blanks at levels below the CRDL. Acetone was U coded in sample DSX72008D, due to this occurrence.

Semivolatiles: No contaminants were found in the method blanks.

6. **Surrogate Recovery**

Volatiles: Surrogate compound recoveries were out of control limits for sample DSX72008D, both for initial and re-analysis. Toluene-d8 was outside of contract required QC limits on the initial analysis. 1,2-Dichloroethane-d4 was outside control limits on the re-analysis of DSX72008D. As a result, Methylene Chloride and Tetrachloroethene were qualified with a J code in this sample.

Semivolatiles: Surrogate compound recoveries for 2,4,6-Tribromophenol were out of control limits for samples DSX72002, DSX72003, DSX72004, and DSX74005. No data were qualified by this result.

7. **Matrix Spike/Matrix Spike Duplicate Recovery**

Volatiles: Matrix spike/Matrix spike values were all within the control ranges.

Semivolatiles: Matrix spike/Matrix spike values were all within the control ranges.

8. **Performance Evaluation Sample**

There were no performance evaluation samples included with this sample package.

9. **Compound Identification and Quantitation**

Due to the requested review level, results listed on the summary forms were used for the review. These results were not checked against the raw data for accuracy, and calculations were not verified.

10. **Summary**

Volatiles: Calibration outliers resulted in qualification of data for one compound in one sample. Blank contamination caused qualification in one sample. Surrogate outliers caused J coding on one sample.

Semivolatiles: Calibration outliers resulted in data qualification in three samples. Surrogate outliers did not result in any data qualification.